

# Exhibit 35

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## CROWNS & FILLINGS

The bread and butter, heart and soul of any general dentist is restorative dentistry, most commonly crowns and fillings. It's the art and science of making things whole again.

We offer the newest composite and ceramic technology, but with a healthy respect for proven approaches that still work today. A lot of the "new" options in dentistry are product driven solutions that sacrifice durability for slight improvements in esthetics. Every treatment decision must find a balance between appearance, cost, durability, strength and bio-compatibility. Since there is NO perfect dental material, we still recommend prevention above all.

Here are some blog posts on restorative dentistry.

### BRUXZIR VS PFM: NEW ZIRCONIA VS OLD TRIED AND TRUE



This is the first comparison case I am doing to test a new crown technology. Glidewell Labs has a new type of crown for back teeth made out of zirconia, a high strength ceramic. Like gold crowns, they are virtually unbreakable, don't require a lot of tooth height. Unlike gold crowns, they are tooth colored.

Many people know about 3M's Lava crowns. They are porcelain fused to zirconia. They are beautiful in the front, but they are expensive to produce, and the porcelain is relatively fracture prone. Few problems on front teeth, but using them on high-load molars is risky; I've actually had a couple of them break myself. In every documented case of failure, (I'm talking the published clinical studies) the outer porcelain breaks off, leaving the inner zirconia intact. So the folks at Glidewell decided to make the entire crown out of zirconia.

The benefit is a lower cost, more conservative tooth reduction (dental colleagues, they're claiming 1mm occlusal reduction), and better appearance than a gold crown. The tradeoffs: harder for the dentist to adjust, harder for the dentist to repolish, and poor translucency. (which is why they are meant for back teeth) I decided to ask my friends at Glidewell to make me two crowns: a PFM, the tried and true porcelain fused to metal crown, and a new Bruxzir, the all-zirconia crown.

Here's the photos:

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As you can see, the zirconia crowns hold up very well to the PFM crowns that go on 90% of my patients. And compared to a gold crown, they are hugely better. As a matter of fact, this patient chose the zirconia crown. She said it fit like a glove, and she loved the appearance much better. We agree. We're doing another case to confirm our very positive initial findings.

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# Exhibit 36



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### Moving To Monolithic

**New price-competitive materials and techniques give laboratories affordable and automated CAM solutions.**

Chip-proof, esthetic, strong, biocompatible, durable, price-competitive—these are just a few of the qualities that have many laboratories turning to full-contour crowns and bridges produced from CAD/CAM-milled monolithic materials. These restorative solutions have no porcelain overlay material to risk shear or fracture, nor do they require specialized pressing techniques and equipment. They are constructed of solid monolithic zirconia, solid ceramic, or a combination of the two materials fused into a solid structure that can withstand the chewing forces of the posterior regions of the mouth and yet exhibit the esthetic qualities demanded in the anterior. Better yet, they bring laboratories a step closer to full automation and can be sold at a price that is competitive with offshore products.

"I think the ability of manufacturers to provide customers with a material that, when finished, is price-competitive with offshore products makes milling full contour so attractive," says Rita Acquafredda, vice president and general manager of Zahn Dental. The company is now introducing a full-contour solution ([www.zahndental.com](http://www.zahndental.com)) that gives dental laboratories two options—they can outsource it to the CMC Milling Center in Arvada, Colorado, by sending their .STL scan files or a model, or they can purchase the material as a milling disc for in-house production. Any CAD/CAM system that accepts a 100-mm milling disc can mill the material, with each disc producing anywhere from 33 to 44 single crowns. Soon, the discs will also be available in a 98-mm disc size.

Full-contour zirconia restorations first appeared on the market in February 2010 with **Glidewell's BruxZir® Solid Zirconia** crowns and bridges ([www.bruxzir.com](http://www.bruxzir.com)). Designed for patients who grind their teeth and typically destroy conventionally processed crowns or bridges, BruxZir restorations claimed indestructibility with their high strength and durability. Now the rest of the market is following suit, with a host of new indications for zirconia and all-ceramic products.

What held the market in limbo for nearly a year were concerns that zirconia had the potential to wear down natural dentition at a much faster rate than conventional indirect materials if it were not treated properly. But it seems those fears have been abated as several manufacturers have or are planning to get into the full-contour zirconia milling game.

"Before we release a new product or new indication, we make sure it will perform to the expectations of the dentists and patients," says Colin Norman, director of Digital Materials at 3M ESPE. Keenly aware of industry concerns about zirconia's abrasiveness to natural dentition, the company extensively tested its newest indication for the market—the Lava™ All Zirconia restoration ([www.3MESPE.com](http://www.3MESPE.com)). "We ran a battery of in vitro tests before we felt confident enough to release Lava All Zirconia restorations," Norman says. Indicated for milling full-contour single crowns, three- to six-unit bridges, long-span bridges, and cantilever bridges, Lava All Zirconia is a new indication for the existing Lava zirconia milling material.

Acquafredda says tests of highly-polished, full-contour zirconia restorations have suggested they are actually less abrasive than conventional porcelain-fused-to-metal crowns and bridges. 3M ESPE's in vitro tests have shown that the wear characteristics exhibited by polished zirconia is surprising low, according to Norman. "It does not cause drastic wear of opposing enamel," he explains.

Unlike glass-based materials, chewing forces have not been found to make zirconia rougher. However, polishing of monolithic zirconia is required. One question that still remains unanswered is what happens to that restoration in the hands of the dentist. If the delivered final crown or bridge requires chairside adjustment, excessive grinding with the wrong instruments could change the bulk properties of the zirconia, leading to strength deterioration.

For laboratory owners whose clients request full-contour zirconia restorations, the anatomically contoured crowns and bridges can be surface-polished using standard polishing burs, followed by a polishing paste such as Zircon-Brite (DVA, Inc, [www.dentalventures.com](http://www.dentalventures.com)) and a fine-coated diamond bur to achieve the high shine. Norman claims the wear of a



Zahn Dental's full-contour solution



3M ESPE Lava All Zirconia restoration



Millenium Concept by One Source Dental



Ivoclar Vivadent's IPS e.max CAD-on

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zirconia restoration is long lasting when a high-shine polish has been applied to its surface.

While there are surely more full-zirconia solutions to come, several are currently available or soon will be, including a new offering from Zahn Dental, 3M ESPE's Lava All-Zirconia, Zenostar® crowns and bridges by Wieland ([www.wieland.com](http://www.wieland.com)), and One Source Dental's Millenium Concept restorations ([www.one-sourcedental.com](http://www.one-sourcedental.com)).

#### Fusing All-Ceramic to Zirconia

At next month's Midwinter Meeting in Chicago, Ivoclar Vivadent ([www.ivoclarvivadent.com](http://www.ivoclarvivadent.com)) will launch the IPS e.max CAD-on, a new processing technique that enables dental laboratories to create zirconia-based IPS e.max bridges. This restorative solution will round out the IPS e.max line by offering a definitive esthetic solution for the posterior region that does not require veneering porcelain and is stronger than a pressed overstructure to zirconia.

The substructure is milled from IPS e.max ZirCAD zirconia and the veneering structure is milled from IPS e.max CAD lithium disilicate. "Instead of layering or pressing a feldspathic or fluorapatite glass, which is only about 100 MPa in strength, we now can mill out a much stronger full anatomical lithium disilicate overstructure for the top that is 360 MPa," says Jason Obrokta, marketing manager of All Ceramics at Ivoclar Vivadent. The two halves are fused with Crystall./Connect, a ceramic slurry that bonds the lithium disilicate and zirconia into a strong, solid structure. The company has developed a 40-mm lithium disilicate milling block for the Sirona inLab® MC XL milling unit ([www.sirona.com](http://www.sirona.com)). The newest Sirona software enables expanded applications for IPS e.max CAD and IPS e.max ZirCAD, which can be combined to create up to four-unit bridges.

Obrokta says it takes about 30 minutes to mill a three-unit bridge, depending on morphology, and a single 40-minute firing cycle to simultaneously crystallize the blue state IPS e.max CAD and fuse the ZirCAD framework. "What makes this solution efficient is that you can mill the IPS e.max CAD bridge while you are sintering the IPS e.max ZirCAD framework," Obrokta explains. "This gives laboratories the opportunity to turn around a three- to four-unit bridge in a few hours, if they are using the fast sintering Programat S1."

Midwinter attendees will also get the first look at an innovative way to characterize milled full-contour restorations without applying stains and glaze. Zahn Dental plans to introduce Hilla, a digital transfer "decals" film that fuses to any milled monolithic material to give the crown or bridge the depth of a highly esthetic, multilayered porcelain product. "It is a digital transfer on a printed porcelain film," Acquafredda explains. "The film is applied to the restoration, providing predictable characterization every time. It can be applied to porcelain, zirconia, or any all-ceramic material."

Now all dental laboratories need is to custom digitize each film by integrating the manufacture process with a digital shade device, and the ability to automate the application and fusing process for full automation.

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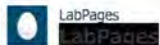
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## CEREC® Connect: A Welcomed Upgrade for CEREC Users by Carlos A. Boudet, DDS, DICOI



Many dentists have invested in CEREC technology to save money on their lab bills. I'm happy to say you can still do that, even if you have an older generation CEREC system.

### NOTE FROM the EDITOR

Digital impressions are slowly catching on with our customers at the lab. The majority of the digital impressions we receive are from Sirona CEREC® owners, who typically use this digital impression system to design and mill a crown, such as IPS e.max® CAD, in their own offices. However, we are seeing more CEREC dentists who want to take advantage of highstrength monolithic restorations that cannot be milled in the office, such as **BruxZir® Solid Zirconia**.

Many CEREC dentists find making digital impressions to be as routine as taking polyvinyl impressions, and they prefer making a digital impression that is transmitted to the lab. Sending a digital impression automatically saves dentists \$7 on inbound FedEx shipping. If a dentist orders a monolithic restoration, such as BruxZir, IPS e.max or cast gold, Glidewell Laboratories can make the restoration model-free (no model work is fabricated), and we pass on that \$20 savings. That means a \$99 BruxZir crown becomes a \$79 BruxZir crown when the case is prescribed via digital impression. For a 3-unit posterior BruxZir bridge, that's a savings of \$60. I don't foresee many dentists investing in this technology and adopting digital impressions without laboratories offering an incentive, such as a discount on every crown prescribed.

In this article, Dr. Carlos Boudet outlines the steps for making a digital impression with CEREC and walks through the steps necessary to transmit a digital file to the lab via CEREC Connect. Many dentists have invested in CEREC technology to save money on their lab bills. I'm happy to say you can still do that, even if you have an older generation CEREC system.

### Introduction

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A common fear among dentists who purchase the latest technology in the form of a new piece of equipment is the uncertainty of how soon it will be made obsolete. This fear is greater when it is unclear if the manufacturer will offer system upgrades that allow the dentist to continue using the equipment when improved features and new options become available.

#### **The CEREC CAD/CAM System**

There are two chairside CAD/CAM systems available today: CEREC (Sirona Dental Systems; Charlotte, N.C.) and E4D Dentist™ (D4D Technologies; Richardson, Texas). There are also three chairside digital impression systems in the U.S. today: Lava™ C.O.S. from 3M ESPE, iTero from CADENT1 and IOS FastScan from IOS Technologies Inc. (The last was recently released to a select group of dentists in Southern California. A fourth chairside digital impression system developed in Israel, Densys, is not yet available to U.S. dentists but is expected to be released stateside in late 2011.) I own a CEREC 3D Redcam system, which now has been replaced by faster hardware and better software with Sirona's CEREC Bluecam.

Soon after I purchased the CEREC Redcam system, I had the opportunity to test out the CADENT iTero.2 I liked the system's ability to create a very precise model that allowed me to choose virtually any material for the fabrication of crowns & bridges from a digital impression. This got me thinking: Wouldn't it be nice if I could take digital impressions with my CEREC unit and send them to the lab for cases that, because of the choice of materials<sup>3</sup> or other reasons, cannot be fabricated using the compact milling unit?

Before long, I found out that Sirona engineers had already been working on that. The company soon released newly developed software that gave users the ability to send digital impressions to their dental laboratory of choice, not only for CAD/CAM but also for practically all conventional restorations and materials. Sirona made this possible by first creating a new software program called CEREC Connect, and then by allowing some owners of older hardware configurations to upgrade their software and take advantage of this very useful feature.

I had the opportunity to work with my regular laboratory, which also happens to be an experienced CEREC Connect lab, on a case that involved a combination of thin veneers and porcelain crowns in the mandibular anterior region. The lab's knowledge and guidance ensured a digital case that proceeded without trouble and according to plan.

#### **CEREC Connect Procedure**

The case highlighted is a rehabilitation in which the patient transitioned from nonrestorable maxillary anteriors and severe attrition damage in the mandibular anteriors to interim partial dentures and, finally, implant-supported prostheses.

CEREC Connect was utilized to restore the four mandibular incisors. For the benefit of new CEREC Connect users, a brief outline follows of the procedural steps taken during the CEREC Connect case.

1. Register online at [www.cerec-connect.com](http://www.cerec-connect.com). Start by clicking on "Dentist Registration" and choosing a User ID and password that you can remember easily. Fill out the required information. For ease of use, the acquisition unit should have a high-speed Internet connection. A CEREC Connect representative will contact you within three business days to finalize the registration. NOTE: Write down your User ID and password. You will need it every time you send a case through the Internet portal.
2. Download the latest CEREC Connect software. You can find the software online at [www.cerec-connect.com](http://www.cerec-connect.com). Follow the required steps to send a case using CEREC Connect. Start by clicking the program icon. You will see the same familiar interface.
3. Start the digital impression by scanning the preparation(s) and defining the margins. Move the cursor over the antagonist and scan the opposing arch. Then, using the newly developed "buccal bite," take a scan of the buccal while the patient bites in maximum intercuspation. This eliminates the need for a bite registration.
4. Manually correlate the three impressions. You can do this by dragging the buccal bite into the antagonist model; when placed correctly, they will attach. Then drag the buccal bite over the preparation model. All three models should correlate and stitch together.

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5. If there are several preparations in the impression, you do not have to trim the preparations. This step is optional. However, you should draw the prep margins because you should be able to recognize them more easily than the laboratory.

6. Once the margins are finished, the "Connect" icon will become available. Click the icon to go to the CEREC Connect portal.

7. Enter your CEREC Connect User ID and password, which will open the "Restoration Data" tab.

8. Enter the data for each individual restoration. NOTE: If all restorations are the same design, you can enter the data once for all restorations. This saves valuable time, given that there is good communication between you and your lab.

9. Follow the steps to your shopping cart, where you will find the case. Enter your User ID and password under "Confirmation." Then click "Prescription" to send the case to the laboratory.

10. When the green bar appears, you will know the file was transmitted successfully to the lab. On the following business day, you will receive a confirmation e-mail. It will state that the lab accepted your case for fabrication of your prescribed restorations. The laboratory can create your restorations from the digital data alone. Or, if necessary, you can order digitally produced models from infiniDent. The case can be in your office in a few days.

#### **Conclusion**

CEREC Connect has increased the versatility and usefulness of the CEREC chairside CAD/CAM system. It has also allowed dentists who significantly invested in the CEREC system to expand its capabilities and to continue offering state-of-the-art technology to their patients.

Dr. Carlos Boudet practice in West Palm Beach, Fla. Contact him at [www.boudetdds.com](http://www.boudetdds.com) or .

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#### **References**

1. Lowe RA. CAD/CAM Dentistry and Chairside Digital Impression Making. [www.ineedce.com](http://www.ineedce.com) publication. 2008.
2. Zweig A. Improving impressions: go digital. *Dent Today*. 2009;100-04.
3. Giordano R. Materials for chairside CAD/CAM produced restorations. *J Am Dent Assoc*. 2006;137(suppl):14-21.
4. CEREC Connect Version 3.82 Operators Manual. Sirona Documentation. Aug 2010.

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